AF/IFW

Docket No.: KC-19,188

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Peiguang ZHOU	Group No.: 1773
Serial No.:	10/655,717	Examiner: Kevin R. Kruer
Filing Date:	05 September 2003	
Title:	STRETCHABLE HOT-MELT ADHESIVE COMPOSITION WITH TEMPERATURE RESISTANCE	
Customer No.:	35844	

REPLY BRIEF UNDER 37 C.F.R. § 41.41

Mail Stop Appeal Brief - Patents
U.S. Patent and Trademark Office
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

In response to the Examiner's Answer dated 13 July 2007, Applicant submits the following reply brief. Applicant believes that no fee is owed. If a fee is owed, please charge it to Deposit Account No. 19-3550.

I hereby certify that this correspondence (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop Appeal Brief-Patents, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450 on

9-10-07

9-10-07
Date

Maryl J. Peterson
Signature

In the Examiner's Answer, the Examiner reiterates the rejections of Claims 18-22, 24-35, 44-48 and 52-65 under 35 U.S.C. § 103(a) as unpatentable over International Publication WO 02/053668 ("Zhou et al.") in view of U.S. Patent 4,857,594 ("Lakshmanan et al."). Applicant maintains that Zhou et al. and Lakshmanan et al., alone or in combination, fail to disclose or suggest Applicant's claimed invention.

I. ARGUMENT

The claim rejections under 35 U.S.C. § 103(a) involve a combination of Zhou et al. and Lakshmanan et al.

The law recognizes that "[an invention] composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. ____, 127 S.Ct. 1727, 1741 (2007). The proper analysis is "whether there was an apparent reason to combine the known elements in the fashion claimed by [Applicant]." *Id.* Applicant respectfully submits that a person skilled in the art would have seen no benefit in combining the teachings of Zhou et al. and Lakshmanan et al. and would not have created Applicant's claimed laminate.

Zhou et al. teaches the combination of an atactic polymer and an isotactic polymer to make an adhesive composition. The Examiner agrees that Zhou et al. does not teach or suggest the addition of an elastomeric base polymer to its adhesive composition. (Examiner's Answer, p. 4). However, the Examiner maintains that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the adhesive taught by Zhou et al. by replacing the amorphous component taught in Zhou et al. with a blend of an amorphous polypropylene, a tackifier and a selectively hydrogenated block copolymer taught by Lakshmanan et al. (Examiner's Answer, p. 4). The Examiner alleges that "the motivation for doing so would have been to improve the composition's adhesion to polyolefin substrates" (Examiner's Answer, p. 11). Applicant respectfully disagrees.

The test data presented in Table 1 of Zhou et al. shows no bond failure between the adhesive composition and the two substrates even after 30 hours of testing. Based on this excellent performance, a person skilled in the art would see no further benefit from the modification of the composition, and, consequently, would not be motivated to make the substitution suggested by the Examiner.

Lakshmanan et al. teaches the combination of an amorphous polypropylene, a tackifier and a selectively hydrogenated block copolymer to make an adhesive composition. Lakshmanan et al. further teaches that all three ingredients must be present in order for the synergistic effect of improved adhesion to olefinic compounds to occur. The test runs of Lakshmanan show that, when compared to an adhesive containing amorphous polypropylene alone, the combination of amorphous polypropylene solely with a selectively hydrogenated block copolymer (without a tackifier) not only shows no improvement in adhesion to polyethylene, but shows reduced adhesion to polypropylene. Based on the teachings of Lakshamanan et al., a person skilled in the art would see no benefit in using a selectively hydrogenated block copolymer alone (without a tackifier) in an adhesive composition.

The Examiner argues that because tackifiers are not excluded from Applicant's invention, the argument that Lakshmanan et al. requires a tackifier as a necessary component fails to render Applicant's claims nonobvious. Applicant respectfully disagrees.

When making an analysis under 35 U.S.C. § 103(a), both the prior art references and the invention must be considered as a whole. *Hodosh v. Block Drug Co., Inc.*, 786 F.2d 1136, 1143 (Fed. Cir. 1986). When considered as a whole, the Applicant's invention, as claimed, is directed to a laminated structure including a three-ingredient (i.e., including an atactic polymer, an isotactic polymer and an elastomeric base polymer) adhesive composition between the layers. While other ingredients, such as tackifiers, may optionally be added to Applicant's claimed adhesive composition, they are not necessary to obtain the claimed, unexpected high level of static and dynamic peel strength between the layers. Applicant has discovered that an adhesive composition including the claimed

three ingredients has an unexpected 180° static peel strength (time to fail) of at least about six hours and a dynamic peel strength after 85% stretch of at least about 2000 grams per 2-inch width.

Citing *United States v. Adams*, 383 U.S. 39 (1966), the Supreme Court in *KSR Int'l Co.* recognized that "[t]he fact that the elements worked together in an unexpected and fruitful manner supported the conclusion that Adams's design was not obvious to those skilled in the art." 550 U.S. ____, 127 S.Ct. at 1740. Based on the analysis of the invention as a whole, Applicant's invention is contrary to Lakshmanan et al., and the results would have been surprising and unexpected based on Lakshmanan et al.

Applicant maintains that Applicant's invention is an unlikely combination of elements that produces unexpected results and is thus nonobvious. Applicant further maintains that based on the disclosures of Zhou et al. and Lakshmanan et al., a person of ordinary skill in the art would not have been motivated to combine the teachings of the two references and/or make Applicant's claimed laminate with the unique composition and properties, as claimed.

II. CONCLUSION

Applicant respectfully submits that Claims 18-22, 24-35, 44-48 and 52-65 are patentable and should be allowed. The claim rejections under 35 U.S.C. § 103(a) should be reversed.

Respectfully submitted,

Maxwell J. Petersen
Registration No. 32,772

Pauley Petersen & Erickson
2800 West Higgins Road; Suite 365
Hoffman Estates, Illinois 60169
PHONE (847) 490-1400
FAX (847) 490-1403